

Serial No. 09/652,862  
Amdt. dated August 12, 2003  
Reply to Office Action Dated May 16, 2003

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method for rapid acquisition of a specific subscriber comprising the following steps:

(a) defining a coverage area as an arrangement of a plurality of cells wherein one of the plurality of cells includes a specific subscriber;

(b) defining a partition of cell clusters wherein one of the cell clusters includes the one of the plurality of cells that includes the specific subscriber;

(c) forming a beam that corresponds to an area of one of the cell clusters; and

(d) sequentially scanning the beam to each of the cell clusters until the one of the cell clusters that includes the specific subscriber is identified.

2. (Original) The method of claim 1 wherein step (b) includes defining the partition from a traffic model to enhance acquisition of the specific subscriber.

3. (Original) The method of claim 1 further comprising after step (d) the step of (e) partitioning the cell cluster that includes the specific subscriber into a plurality of cell clusters.

4. (Original) The method of claim 3 wherein each of the plurality of cell clusters has an equal number of cells.

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5. (Original) The method of claim 3 further comprising after step (e) the step of (f) zooming the beam to form a beam that corresponds to an area of one of the plurality of cell clusters.

6. (Original) The method of claim 5 wherein step (f) comprises combining beams corresponding to an area of at least one of the plurality of cells to form the beam.

7. (Original) The method of claim 5 further comprising the step of repeating steps (d), (e), and (f).

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8. (Currently Amended) An apparatus for rapid acquisition of a specific subscriber comprising:

a stratospheric transponder platform having an antenna for one of transmitting and receiving a beam; and

a ground station coupled to the stratospheric transponder platform wherein the ground station comprises a beamformer for zooming a beam corresponding to an area of a cell cluster within a partition containing a plurality of cell clusters and sequentially scanning the beam to aim at each of the cell clusters until one of the plurality of cell clusters that includes the specific subscriber wherein each of the plurality of cell clusters includes at least one of a plurality of cells.

9. (Original) The apparatus of claim 8 wherein the ground station further comprises a traffic model module for defining the partition.

10. (Original) The apparatus of claim 8 wherein each of the plurality of cell clusters has an equal number of cells.

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11. (Original) The apparatus of claim 8 wherein the beamformer zooms the beam by combining beams corresponding to an area of at least one of the plurality of cells.

12. (Currently Amended) A method for rapid acquisition of a specific subscriber comprising the following steps:

(a) defining a coverage area as an arrangement of a plurality of cells wherein one of the plurality of cells is a specific subscriber cell including the specific subscriber;

(b) partitioning the plurality of cells into cell clusters each formed from more than one of the plurality of cells wherein one of the cell clusters includes the specific subscriber cell;

(c) forming a beam that corresponds to an area of one of the cell clusters;

(d) sequentially scanning the beam to each of the cell clusters until the one of the cell clusters that includes the specific subscriber is identified;

(e) partitioning the one of the cell clusters that includes the specific subscriber into a second plurality of cell clusters;

(f) zooming the beam to form a beam that corresponds to an area of one of the second plurality of cell clusters; and

(g) sequentially scanning the beam to each of the second plurality of cell clusters until one of the second plurality of cell clusters that includes the specific subscriber[.] is identified; and

(h) determining a location of the specific subscriber cell in response to scanning the beam to one of the second plurality of cell clusters that includes the specific subscriber.

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13. (Previously Presented) The method of claim 12 wherein partitioning the plurality of cells comprises partitioning the plurality of cells in response to a traffic model.

14. (Previously Presented) The method of claim 12 wherein partitioning the plurality of cells into cell clusters comprises partitioning the plurality of cells into clusters each having an equal number of cells.

15. (Currently Amended) A method for rapid acquisition of a specific subscriber comprising:

defining a coverage area having a plurality of cells wherein one of the plurality of cells includes the specific subscriber generating a locating signal;

defining at least a first cell cluster and second cell cluster within the plurality of cells;

zooming a beam to a first size;

sequentially scanning the first cell cluster and the second cell cluster;

identifying the first cell cluster when the locating signal is received therefrom;

partitioning the first cell cluster into a third cell cluster and a fourth cell cluster;

zooming the beam to a second size;

thereafter, confirming the specific subscriber is within the third cell cluster in response to the locating signal; and[[;]]

partitioning and zooming- until a location of the specific subscriber is determined.

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16. (Previously Presented) The method of claim 15 wherein zooming a beam to a first size comprises zooming a beam to a first size corresponding to an area of the first cell cluster or the second cell cluster.

17. (Previously Presented) The method of claim 15 wherein zooming the beam to a second size comprises zooming a beam to a second size corresponding to an area of the third cell cluster or the fourth cell cluster.

18. (Previously Presented) The method of claim 15 wherein partitioning the plurality of cells comprises partitioning the plurality of cells into an equal number.

19. (Currently Amended) A method for rapid acquisition of a specific subscriber comprising:

defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber cell having a specific subscriber therein; and

partitioning the cells into progressively smaller clusters; and  
zooming and sequentially scanning a beam to the progressively smaller clusters until a location of said specific subscriber cell is determined.

20. (Currently Amended) A method for rapid acquisition of a specific subscriber comprising:

defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber generating a locating signal;

defining a first cell cluster from the plurality of cells according to a traffic model;

zooming and sequentially scanning a beam to a first size corresponding to the first cell cluster;

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confirming that the specific subscriber is within the first cell cluster;  
partitioning the first cell cluster into a second cell cluster and a third cell  
cluster;  
zooming and sequentially scanning the beam to a second size;  
thereafter, confirming that the specific subscriber is within the third cell  
cluster; and  
partitioning and zooming until a location of the specific subscriber cell  
is determined.

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21. (Previously Presented) The method of claim 20 wherein confirming  
that the specific subscriber is within the first cell cluster comprises receiving the  
locating signal from the user.

22. (Previously Presented) The method of claim 20 wherein zooming  
the beam to a second size comprises zooming the beam to a second size  
corresponding to the third cell cluster.

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23. (Previously Presented) A method for rapid acquisition of a specific subscriber comprising:

defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber having a first acquisition code address and a second acquisition code address associated therewith;

performing a first acquisition method and a second acquisition method in parallel until a location of a specific subscriber cell is determined, wherein

performing a first acquisition method comprises

using a first acquisition code address, partitioning the cells into first progressively smaller clusters; and

zooming and scanning a first beam to the first progressively smaller clusters; and

performing a second acquisition method comprises

using a second acquisition code address, partitioning the cells into second progressively smaller clusters according to a traffic model; and

zooming and scanning a second beam to the second progressively smaller clusters.